SANRAL BOTSHABELO INTERCHANGE
Phase I Cultural Heritage Impact Assessment

SEF Reference No. 504892

Prepared for

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JULY 2013

Declaration of Independence

I, **Mamoluoane Seliane,** in my capacity as a specialist consultant, hereby declare that I -

- Act as an independent consultant;
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998); and following the provisions of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).
- Have and will not have vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity;
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998); and/or the National Heritage Resources Act, 1999 (Act No. 25 of 1999).
- Will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;
- Based on information provided to me by the project proponent, and in addition to information obtained during the course of this study, have presented the results and conclusion within the associated document to the best of my professional judgement; and
- Undertake to have my work peer reviewed on a regular basis by a competent specialist in the field of study for which I am registered.

23 July 2013

_____ _____

Mamoluoane Seliane Date
Heritage Specialist
Accredited by ASAPA Reg. No. 255

EXECUTIVE SUMMARY

The aim of the cultural heritage survey (Phase I Heritage Impact Assessment (HIA), in accordance with the National Heritage Resources Act, 1999 (Act No. 25 of 1999)) was to locate, identify, document and assess sites of cultural heritage and archaeological significance that may occur within the proposed study area for the construction of the Botshabelo Interchange. An assessment of the impact of the proposed construction of the interchange on such resources will be provided. Where the impact is negative, alternatives and/ or mitigation plans will be considered.

The Phase I HIA revealed no heritage resources within the proposed study area for the interchange construction. It is therefore, recommended from a heritage point of view that the proposed Botshabelo Interchange, proceed with acceptance of the conditions stated in Section 8 of this report.

ACRONYMS AND ABBREVIATIONS

EIAge	Early Iron Age
ESA	Early Stone Age
GPS	Geographic Positioning System
HIA	Heritage Impact Assessment
LIA	Late Iron Age
LSA	Later Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
SAHRA	South African Heritage Resources Agency
SANRAL	South African National Road Agency Limited
SEF	Strategic Environmental Focus (Pty) Ltd
BA	Basic Assessment

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1. INTRODUCTION

The proposed construction of the Botshabelo Interchange on National Route 8 (N8) Section 11 will take place between km43 and km52.6 and will involve the upgrade to the main access road to Botshabelo within the jurisdiction of the Mangaung Local Municipality in the Free State.

The study area of the project covers the N8 between the west intersection at SV43.7 to the east intersection at SV52.6, with the intention to close these two intersections. The proposed interchange would be located on the N8 Section 11 (N8/11:47.98kmE) at the primary access to Botshabelo (Figure 1).

The scope of work therefore includes the following:

- Closure of three formal intersections (within the 8km study area) which currently provides access to Botshabelo;
- Construction of a grade separated interchange as the primary (and only) access into Botshabelo, with an option to provide access to the north of the N8 for future development; and
- Formalise links and improve roads from the interchange into the existing Botshabelo road network, and northward to the existing gravel roads.

Strategic Environmental Focus (Pty) Ltd (SEF) was commissioned by South African National Road Agency Limited (SANRAL) to undertake a Heritage Impact Assessment (HIA) of the proposed footprint for the Botshabelo Interchange. This HIA was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), (NEMA), and it is based on the requirements of the National Heritage Resources Act, 1999 (Act No 25 of 1999) (NHRA). This HIA is a specialist study that forms part of the Basic Assessment (BA) process for application of the environmental authorisation for the proposed development.

According to Section 3 (2) of the NHRA, the heritage resources of South Africa include:

"*a. places, buildings, structures and equipment of cultural significance;*
b. places to which oral traditions are attached or which are associated with living heritage;
c. historical settlements and townscapes;
d. landscapes and natural features of cultural significance;
e. geological sites of scientific or cultural importance;
f. archaeological and palaeontological sites;
g. graves and burial grounds, including-
    i. ancestral graves;
    ii. royal graves and graves of traditional leaders;

iii. graves of victims of conflict;
iv. graves of individuals designated by the Minister by notice in the Gazette;
v. historical graves and cemeteries; and
vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);

h. sites of significance relating to the history of slavery in South Africa;
i. movable objects, including-

i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
ii. objects to which oral traditions are attached or which are associated with living heritage;
iii. ethnographic art and objects;
iv. military objects;
v. objects of decorative or fine art;
vi. objects of scientific or technological interest; and
vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)."

In terms of Section 3 (3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of:

"*a. its importance in the community, or pattern of South Africa's history;*
b. its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
c. its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
d. its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
e. its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
f. its importance in demonstrating a high degree of creative or technical achievement at a particular period;
g. its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
h. its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
i. sites of significance relating to the history of slavery in South Africa."

The aim of the investigation was to identify, verify and analyse heritage resources and to recommend how to manage them within the context of the proposed construction of the Botshabelo Interchange.

The objectives of the investigation were:

- Identifying and analysing heritage places, objects, buildings, structures, graves etc.;
- Assessing broad cultural significance of identified sites, places, buildings, structures, graves and objects within the study area;
- Surveying and mapping of significance/sensitivity issues and opportunity/constraint issues;
- Reviewing of the general compatibility of the proposed interchange and associated activities with heritage policy planning frameworks;
- Undertaking a preliminary assessment of the acceptability of the proposed interchange from a heritage perspective;
- Identifying the need for alternatives, if necessary; and
- Recommending appropriate initial management measures to conserve significant heritage elements and reduce the impact on heritage resources.

2. BACKGROUND INFORMATION TO THE PROJECT

Table 1 Background Information

Consultant:	Mamoluoane Seliane
Type of development:	Construction of the Botshabelo Interchange on National Route 8 (N8) Section 11 between km43 and km52
Rezoning or subdivision:	N/A
Terms of reference	Phase 1 HIA
Legislative requirements:	The HIA was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), (NEMA), and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

2.1 Details of the study area

The study area of the project covers the N8 between the west intersection at SV43.7 to the east intersection at SV52.6, with the intention to close these two intersections. The proposed interchange would be located on the N8 Section 11 (N8/11:47.98km) at the primary access to Botshabelo (Figure 1). The length of the study area covers approximately 8 km.

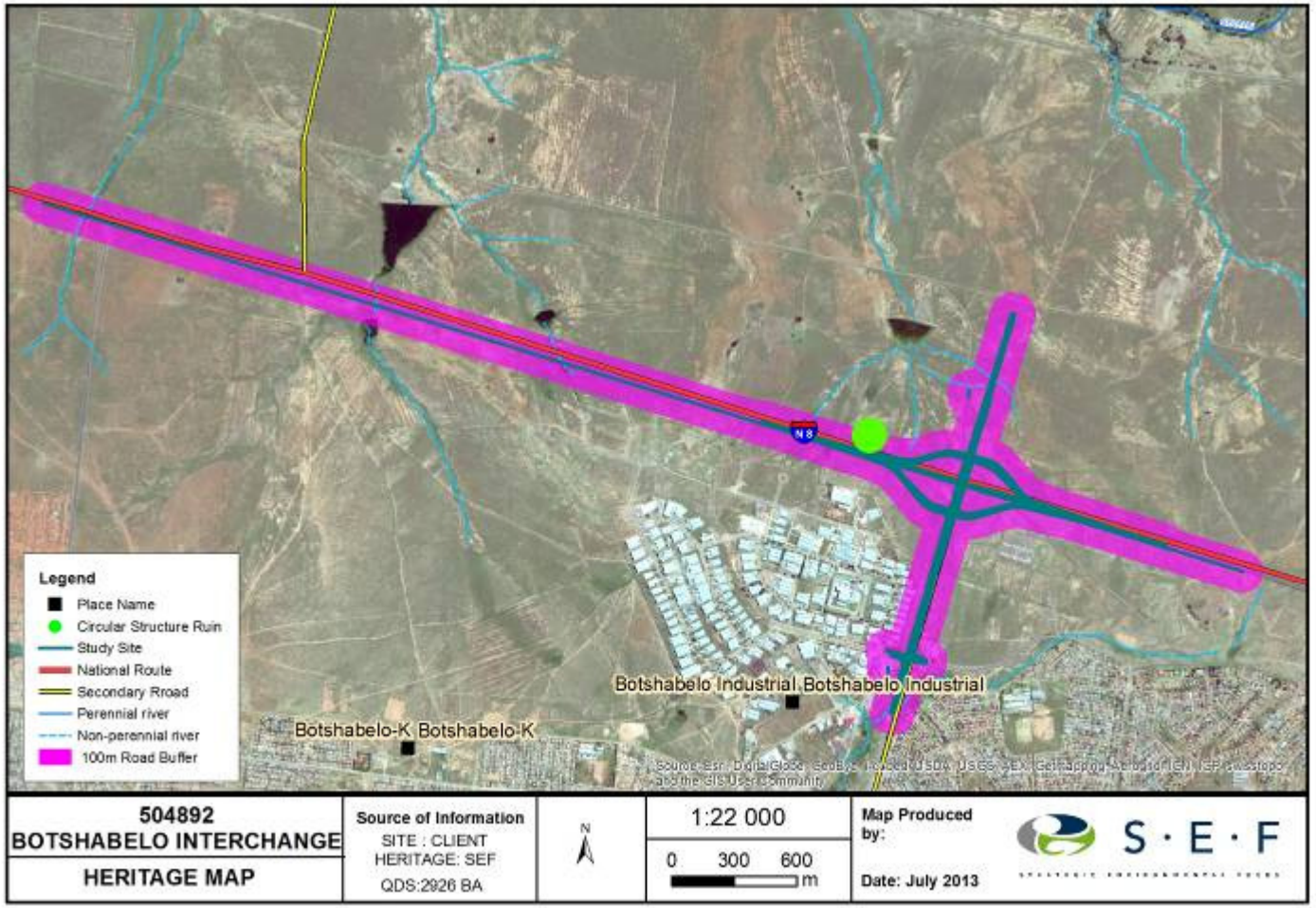

Figure 1: Location of the study area

Current Land-use

The proposed study area for the construction of the Botshabelo Interchange is currently an existing road network (Plate 1). The adjacent land is quite disturbed probably from previous road works and or upgrades on the N8.

Plate 1: The N8 Road still in use

2.2 Locational Data

- Province: Free State;
- District Municipality: Motheo;
- Local Municipality: Mangaung;
- General Coordinates: 28˚01'02.82"S; 32˚16'40.78"E

3. BACKGROUND INFORMATION OF THE SURVEY

3.1 Methodology

3.1.1 Details of the site visit

The site visit for the proposed Botshabelo Interchange was conducted on the 27 May 2013. The survey was undertaken by means of walking throughout the site to:

- Search for, locate and identify objects and structures of heritage and/or archaeological significance in accordance with accepted archaeological practices; and
- Document all heritage/ archaeological sites, objects and structures according to minimum standards and procedures accepted by the archaeological profession.

3.1.2 Literature Review

A brief literature review pertaining to the prehistory of the Free State Province was undertaken.

3.2 Restrictions to the survey

3.2.1 Visibility

Visibility for the most part of the footprint was good (Plate 2).

Plate 2: Typical vegetation on site

3.2.2 Disturbance

There is no disturbance of any potential archaeological stratigraphy noted.

3.3 Details of the equipment used in the survey

- Geographic Positioning System (GPS): Garmin eTrek Camo; and
- Digital cameras: Canon Powershot A460.

All readings were taken using the GPS. Accuracy was to a margin of error of 4 m.

4 BRIEF ARCHAEOLOGICAL HISTORY OF THE FREE STATE PROVINCE

Like some provinces in South Africa, the Free State is poorly researched, archaeologically. However, evidence from what limited research has been conducted on sites within the province shows that the province has a wide spectrum of sites belonging to different time periods and cultural traditions. The Free State is home to fossils that are particularly important in the body of scientific knowledge in the subject of humanity and human evolution, specifically in the last 300 000 years. At Florisbad for example, a discovery of the relatively complete hominid fossil skull and associated cultural material made considerable contributions to the debates of origins and the late archaic phase of modern human development.

4.1 The Stone Age

The Stone Age of southern Africa is comprised of three (3) industries namely, the Early Stone Age (ESA), Middle Stone Age (MSA) and the Later Stone Age (LSA). The ESA dates to between approximately the last 2.5 million years to about 250 000 years ago. This is a period during which human ancestors began the usage of stone tools. The ESA tools were simple tools, which were, among other things, used to chop and butcher meat, de-skin animals and probably to smash animal bones to obtain bone marrow (Deacon & Deacon, 1999).

The ESA tool technology consists of two industries, namely the Oldowan Industry and Acheulean Industry. The Oldowan Industry is named after Olduwai George in Tanzania where these tools were first discovered. This industry dates from approximately 2.5 million years ago to around 1.7 million years. The Oldowan Industry consists of very simple, crudely made core tools from which flakes are struck a couple of times. To date, there is no consensus amongst archaeologists as to which hominid species manufactured these artifacts (Deacon & Deacon, 1999).

At around 1.7 million years ago, it is thought that another hominid appeared on the landscape and is believed to have been responsible for manufacturing Acheulean tools. The Acheulean Industry lasted until about 250 000 years ago. Acheulean tools were more specialized tools than those of the earlier industry. They were shaped intentionally to carry out specific tasks, such as hacking and bashing to remove limbs from animals and marrow from bone. These duties were performed using the large sharp pointed artifacts known as handaxes. Cleavers, with their sharp, flat cutting edges were used to carry out more heavy duty butchering activities (Deacon & Deacon, 1999).

The MSA dates back to about 250 000 years ending around 25 000 years ago. In general, the MSA stone tools are smaller than those of the ESA. A variety of MSA tools include blades, flakes, scrapers and pointed tools that may have been hafted onto shafts or handles and used as spearheads. Between 70 000 and 60 000 years ago, new tool types appeared in South Africa known as segments and trapezoids. These tool types are referred to as backed tools from the method of preparation. Residue analyses on the backed tools from South African MSA sites indicate that these tools were certainly used as spear heads (Mitchell, 2002).

Stone tool technology in the LSA is observed to display rapid stylistic change compared to the slower pace of stylistic change in the MSA (Deacon & Deacon, 1999). The rapidity is more evident during the last 10 000 years. The LSA sequence includes informal small blade tradition from about 22 000 – 12 000 years ago, a scraper and adze-rich industry between 12 000 – 8 000 years ago, a backed tool and small scraper industry between 8 000 – 4 000 years and ending with a variable set of other industries thereafter

Along with the marked social transformation and technological innovation of the LSA people is the associated Rock Art panels that occur on cave walls or rock faces. Rock Art can be in the form of rock paintings or rock engravings, depending on the geology of a region. In the Free State Province, hunter gathering communities painted the walls of the sandstone rock shelters transforming them from 'spaces' into cultural places.

4.2 The Iron Age

A farming way of life was introduced to southern Africa about 2 000 years ago by Bantu-speaking people coming from the north. They brought with them crops such as sorghum, millet, ground beans and cow peas to be cultivated for the first time in this part of the world. Domestic animals such as cattle, sheep and goats were also part of the newly introduced farming way of life. Unlike the hunter-gatherers and herders who lived in temporary camps and led a nomadic way of life, farming necessitated sedentary life styles. Some features of the permanent settlements of these early mixed farming communities are houses, raised grain bins, underground storage pits and stock enclosures. An important feature of this time period was that they also made their own iron implements, hence the name Iron Age. The Iron Age has been divided into three periods, namely the Early Iron Age (EIA Period) (AD 200 – 900), the Middle Iron Age (MIA) (AD 900 – 1300) and the Late Iron Age (LIA) (AD 1300 – 1820) (Huffman, 2007). The investigation did not reveal any Iron Age features or artefacts in the study area.

5 DESCRIPTION OF THE STUDY AREA HERITAGE

5.1 Description of the materials observed

The investigation revealed no heritage resources of significance on the footprint of the proposed Botshabelo Interchange (refer to Table 2). However, a foundation of a circular structure was identified not far from the proposed study area (approximately 150m north of the site) (refer to Figure 1 and Plate 3). However, this structure ruin has no heritage significance as very little of it remains and does not appear to be older than 60 years.

Table 2 Table detailing identified heritage resources and NHRA status

Identified heritage resources	
Category, according to NHRA	*Identification/Description*
Formal protections (NHRA)	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
General protections (NHRA)	
Structures older than 60 years (Section 34)	None
Archaeological site or material (Section 35)	None
Palaeontological site or material (Section 35)	None
Graves or burial grounds (Section 36)	None
Public monuments or memorials (Section 37)	None
Other	
Any other heritage resources (describe)	None

Plate 3 Circular structure ruin

5.2 Summary of the findings

No heritage resources of significance were identified on site and thus no further permitting processes are required.

6. STATEMENT OF SIGNIFICANCE

This section does not apply as no heritage resources of significance were identified on site.

7. PREVIOUS WORK IN THE AREA

The purpose of this section is to provide an overview of the heritage status/potential of the region within which the proposed Botshabelo Interchange study area exists. This way, the significance of identified heritage resources can be evaluated at a regional level and not site level which provides a narrow view about the occurrence and importance of regional signatures for example. The review involves the investigation of the South African Heritage Resources Information System (SAHRIS), which as documented information and developmental reports and authority comments thereof for various projects in the country. Several Phase I HIA reports for projects previously undertaken in and around Botshabelo were investigated and no archaeological resources (Dreyer, 2013) and paleontological resources (Groenewald, 2013) of significance have been found along a proposed new pipeline route between Rustfontein dam and Botshabelo.

However, Dreyer (2005), Tomose (2012) discovered grave sites within the proposed sites for Residential Development in Moroka Extention 22, Thaba-Nchu and Solar Facility in Sannaspos (near Bloemfontein) respectively. Furthermore, farm buildings and MSA tool scatter were part of the discoveries respectively by Pelser (2007) in Vaaldam Settlement 1777, Heilbron District and Tomose (2012) at the Solar Energy Facility in Sannaspos. The study area for the proposed Botshabelo Interchange has been disturbed probably due to previous road (N8) works/upgrades. As a result there were no archaeological and or heritage sites discovered. No graves were identified on site. A circular structure ruin/foundation was located approximately 150m outside of the study area to the north. This structure ruin has low heritage significance and will not be impacted upon by the proposed development.

8 RECOMMENDATIONS

It is recommended that the proposed Botshabelo Interchange proceed from a heritage point of view as no heritage resources were identified on the footprint of the proposed development, with acceptance of the following conditions:

Construction activities should be limited to the proposed footprint for the construction of the interchange. If the size of the footprint is increased at a later stage, a heritage specialist should be consulted in order to assess how the increase in the size of the will affect heritage resources.

9. RISK PREVENTATIVE MEASURES ASSSOCIATIED WITH CONTRUCTION

Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the construction phase. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to the South African Heritage Resources Agency Cape Town (SAHRA) at 021 462 4502 or a museum, preferably one at which an archaeologist is available. The find should then be investigated and evaluated by the archaeologist, who will provide recommendations on when construction activities in the area where the discovery was made can resume.

10 CONCLUSION

The Heritage Impact Assessment survey and desktop investigation for the proposed Botshabelo Interchange revealed no cultural heritage resources of significance. Therefore from a heritage point of view, the proposed development and associated activities can proceed.

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